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Technical Training for the Disadvantaged.

National Alliance of Businessmen.

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Sixty-five representatives of business, federal and state government, and education participated in the conference designed to present the Training and Technology (TAT) Project at the U.S. Atomic Energy Commission's Oak Ridge, Tennessee Y-12 plant as a model from which potential contracters might gain insight into the processes of formulating proposals for similar projects and managing resultant contracts. Speeches presented in this report include: "Union Carbide and TAT" by Clarence E. Larson, "Training the Disadvantaged, Using All Our Resources" by Charles Odell, "Program Conception From 'The Gleam in the Eye'" by Wendell H. Russell, "Redirection of Company Resources" by J. Leo Waters, and "Production and Quality Control in Training" by William R. Ramsay. The digest of three workshop sessions is in the form of questions and answers. (JK)

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TECHNICAL TRAINING FOR THE DISADVANTAGED

Proceedings of a workshop, June 4-5, 1969, in Oak Ridge, Tennessee, presented by the Training and Technology (T&T) Project, Oak Ridge Associated Universities, and the U.S. Department of Labor in cooperation with

JOBS

National Alliance of Businessmen

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Preface

The Oak Ridge conference on Technical Training for the Disadvantaged had two primary objectives:

a. To present the Training and Technology (TAT) Project at the U. S. Atomic Energy Commission's Oak Ridge, Tennessee, Y-12 plant as a model from which potential MA-5 contractors might gain insight both into formulating an MA-5 proposal and managing a contract once granted.

b. To promote the development of MA-5 contracts with industrial concerns.

Conference workshops were oriented directly to the input papers included in this volume, which were designed to present (along with the inspection tour of the current TAT training project) the detailed development of Training and Technology from proposal conception, through program establishment, to the maintenance of its quality.

Additional copies of these proceedings may be obtained by request to:

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UNION CARBIDE AND TAT

*Clarence E. Larson**
President, Nuclear Division, Union Carbide Corporation

It is a pleasure to welcome you to this conference on technical training for the disadvantaged. Four years ago, when the Training and Technology Project was first proposed, I doubt whether I could have discussed, in practical terms, the role industry could play in providing meaningful training for the disadvantaged.

In fact, there was some question concerning whether Union Carbide, in its role as a major private corporation and as a prime contractor, could effectively participate in a program involving so many organizations with such diverse objectives.

Experience has shown that Union Carbide could not only play a positive role in an important program but, in addition, could receive many benefits from participation. Aside from making an important contribution to human resource development, the Nuclear Division has been able to utilize the Training and Technology Project for staff development, for filling manpower needs, and for increasing job training capabilities at the Oak Ridge Y-12 Plant, where TAT is located.

The Y-12 Plant, one of four facilities operated by Union Carbide Corporation for the U.S. Atomic Energy Commission, is a defense establishment. It is a highly specialized industrial complex, one of its primary functions being the design and fabrication of prototypes and test devices and the production of nuclear weapons components.

But Y-12, in essence, is much more than a defense plant. It has become a major chemical and metallurgical facility with a vast reservoir of technical and industrial skills required for many operations.

Union Carbide has for several years taken an active role in human resource development. However, until Training and Technology appeared on the scene, the Nuclear Division did not have an opportunity to participate in a broad, comprehensive training program for the disadvantaged. The TAT program has been so successful that the Nuclear Division is very interested in sponsoring a similar program at the Paducah, Kentucky, gaseous diffusion plant, another facility it operates for the Atomic Energy Commission.

What have been some of the benefits we have derived from participation in the program?

First, more than 120 Nuclear Division employees have participated in TAT in instructional and supervisory positions. The problems and challenges of teaching resulted in these individuals taking a fresh look at the subject matter for which they were responsible. Thus, the plant derived the benefit of a group strongly motivated to increase and update its mastery of important technical fields.

Second, TAT has provided a significant number of new, qualified employees to the Y-12 Plant staff. Many of these employees learned skills which were considered far above their capabilities. Evidence of performance of TAT students indicates that a high school diploma, **per se**, and some of the conventional tests, are not an all-inclusive indicator of performance on the job.

Not the least of the direct benefits have been the improved working relationships which evolved from the necessary communication and give-and-take required in the administration of the project. All of the plant departments—engineering, maintenance, operations, and staff groups—have participated in the training project. Thus, the internal cooperation required by the various groups in the administration and teaching has served to upgrade and enrich the plant's overall training capability.

These are just a few of the benefits which Union Carbide has derived from participation in Training and Technology. Even if we had not received such tangible benefits, we still would be very enthusiastic about TAT. It has demonstrated clearly that industrial concerns, working closely with universities and government agencies, can make a significant contribution in training the disadvantaged.

All of us in Oak Ridge are very enthusiastic about Training and Technology. We feel the program has proved itself and, with continued development, can make a major contribution not only to one region, but to the nation as a whole.

*Mr. Larson has since resigned this position to accept nomination as a member of the U. S. Atomic Energy Commission.

TRAINING THE DISADVANTAGED—USING *ALL* OUR RESOURCES

Charles Odell

Director, Office of Systems Support, Manpower Administration, U. S. Department of Labor

I welcome the opportunity to attend and speak to this conference. Let me first respond with appreciation to the work of business and industry in assuming the responsibilities it has in hiring and training thousands of able-bodied men and women who, for various reasons, have fallen through the competitive cracks in our society and have been unable to become self-supporting. Secondly, I would challenge you, if I can, to continued effort over a long haul, to an even more effective performance. I want to challenge your ingenuity in using resources, your management expertise in application to human resource development, and your industrial knowledge. Of course this is in the interests of the Department of Labor. But more importantly, it is in your own self interest and in the public interest. For those present who represent the public sector in education and the employment service, the challenge is to give the maximum of service and support to the private effort we are asking from the business community.

THE RECENT PAST AND PRESENT PROBLEM

A specter haunts the labor situation in the United States: We have a growing, critical need for skilled workers on one hand, and a growing body of unutilized labor on the other. The unemployed group cannot simply or easily be used to fill the skill shortage need. We need full employment for human reasons and economists tell us that by the 1970's we shall need full employment almost desperately to hope to fulfill the nation's industrial needs. Nevertheless the dissonance between skills needed and skills available threatens us with either slowing the economy or adding to inflationary pressures. Both these alternatives are disastrous and unacceptable.

Why don't we anticipate problems before they become crises? The answer is that we do, but being human—and therefore more or less ignorant—it takes us time to find answers. It is worth trying to capsulate a small bit of history to describe the trends that have been growing upon us and our efforts to grapple with them. We do not know all the answers, but we know some things to do and that we had better start doing them.

The Employment Act of 1946 stated a policy of full employment, but did not provide a program. Prompted by the fear that a sharp recession and high unemployment would follow World War II, it made the achievement of "maximum employment, production, and purchasing power" a national objective, and a specific concern of the Federal Government ". . .with the assistance and cooperation of industry, agriculture, labor, and state and local governments." This was specific enough as to need. But pent-up civilian demand for four hard years of war, the G. I. Bill, and economy-priming for Korea all prevented a slack from developing and there was no demand for a manpower program. Besides, the post-war "baby crop" was just being conceived.

When the first Sputnik was launched in 1957, emphasizing the Soviet development in space and nuclear technology, we became aware overnight of the need, not merely for scientific and technical personnel, but for highly qualified workers generally to maintain the national security. Within months, Congress passed the National Defense Education Act of 1958 to provide fellowships and aid to scientific and technical education.

Other events threatened: The recession of 1957-58 brought unemployment to the highest levels since the 1930's, reaching a rate of 6.8 percent in 1958. It did not drop markedly with economic recovery, and another recession in 1960 ran the unemployment rate back to nearly 7 percent.

A series of facts caused grave concern: The economy was becoming increasingly sluggish. There was a persistent high overall rate of unemployment with an increasing amount of long-duration unemployment causing extreme hardship to workers and their families. Youth, minority groups, and the uneducated and unskilled were particularly hard hit. There was an increasing awareness of the presence of depressed areas that demanded positive remedial action. The baby crop matured and we had a net population increase in less than 20 years following World War II greater than the population of Great Britain. There was such a rush to keep up school facilities that there was not much time to change processes in them. The demographic shift to urban concentrations hit cities unable to cope and doubled and quadrupled the political jurisdictions within them, increasing their unmanageability. Blacks found themselves and decided—quite rightly—that they could and should be equal without being white. The world situation has not been a steadfast place either in its demands on our resources.

When it rained, it poured, as is all so clear in the 20-20 vision of hindsight. I am not interested, however, in either defending our predicament or deploring

it. It is a predicament, and one we must work out of, with as much energy and sense as humans can muster.

A flood of legislation poured out in the 1960's as the problems emerged. With several dozen pieces of legislation and a number of billions of dollars, we have a series of fingers in the dike. From some points of view the effort has been considerable and there are results in which we can take pardonable pride, despite our critics. Between 1961 and 1968 we have had a 3.5 percent annual increase in output per man hour, an addition of 8.2 million persons to the civilian labor force, an additional 10.1 million people employed, an addition of nearly 14 million jobs to non-farm payrolls, a rise in weekly earnings of production workers, and a sharp reduction in unemployment. A number of other statistics of gain might also be cited.

But complacency is a snare and a delusion. Most of those jobs and that prosperity came from increased aggregate demand in a growing economy. Manpower programs have trained some to fill them, but not enough.

There are some assets, however, which, if used, can accelerate our pace. Our immediate past experience has often been frustrating, but it has also been enlightening. There were not many plans or precedents lying around for how to conduct the fray when we first came to it. Much of our work has been involved plunging into the job and learning how to do it as we went along. This approach, along with the explicity research and experimental-demonstration work, has taught us a lot. We know a lot more now than we did only a few years ago about the dimensions of the problem and the kinds of action that must be taken for solution. A specter—of jobs going begging and unemployed men—is still before us. But it need not haunt us.

Of many things learned, one broad strategic requirement is clear: The private sector, and particularly the training resources of industry, must be brought to bear. That is why the National Alliance of Businessmen is in business. That is why you are here. That is the story, with an example, that this conference has to put before you.

OAK RIDGE AND THE EFFECTIVE USE OF INDUSTRY RESOURCES

This morning you toured a project that is a little over two years old. The Training and Technology Project has been a tri-partite link-up of industry—Union Carbide here—the educational establishment, and the Employment Service. The key, however, has been in-plant training, with predominant use of industry personnel. For two years it was experimental and demonstrational. It is now largely a regular operating program. As an experimental program it had the major aims of doing training in an industry setting and of training up to an individual's capacity—training him for something more than a dead-end, entry-level job. Perhaps one can do that if he creams the best of the possible candidates. So how about taking some of those who definitely meet the criteria of disadvantaged and compare them in performance with others? TAT did that and found that today it can take 80 percent of its recruits from the disadvantaged and still train them for high-skill, technical or sub-technical positions. Does it take a lot of time and money? Originally the training took close to twelve months; now it is on an average of seven. Originally the Federal Government bore all of the training costs; now the Atomic Energy Commission permits Union Carbide to pay them, with only support allowance payments coming from the government.

The job of training the disadvantaged, economically and efficiently, for the middle level technicians that are in such short supply can be done, as proved by the fact that it is being done here. The job was not done with mirrors. It was a carefully conceived program to begin with and one that learned to make adjustments as it went along. It will be the burden of the presentations at this conference to take you through the steps here. There was a breadth and depth of consultation with many individuals and groups. Management, educators, and unions were consulted. Everybody's resources had to be inventoried, with a new look at what else could be done with them that was not being done. In the process, industry discovered resources it did not know it had; there were educational resources that could be tied in; unions could provide valuable advice; and the employment service could find new tie-ins.

Someone from NAB has called TAT a "jewel-box situation." Or one can vary the metaphor and say that it is a "hot-house" plant having been nurtured carefully as an experimental and demonstration project with the unique combination of a management group that could devote full attention to it, a university source close at hand for extra support services, and an industry with perhaps a unique staff and orientation to the development of technical skills. This is true, but nevertheless a model has been built not unlike an R and D prototype many of you might build for one of your products. What you finally market will undergo a lot of refinements even in detail from the model that first assisted you in determining feasibility. What is done here may not have exact replication anywhere, but there is a lot of generic experience in how to recruit, train, and hold people as well as ingenuity and perseverance in putting people, re-

sources, and processes together that can be used anywhere.

What has been done here has a lot to say about what is needed in improving the training and retention of those you are sweeping into the lower-level entry jobs, about giving you and them something more to look forward to, about reducing turnover, and, not least, about filling skill-shortage positions. The kind of training that is being done is not for the moment of a spurt in production. It is for the kind of a labor force we need in the 1970's.

THE JOBS PROGRAM

The urgency of the labor force needs of the 1970's is upon us and we cannot plead as much unawareness of our problems as possibly we could heading into the 1960's. They have been underlined by the National Planning Association's **Manpower Needs for National Goals in the 1970's.** The first of their concluding points states: "Full achievement of the sixteen goals by the mid-1970's would require an employed civilian labor force of more than 100 million—some 10 million more than are expected to be in the civilian labor force in 1975." Their second point goes on: "Vigorous pursuit of these objectives in the next decade, therefore, would probably be associated with an insufficiency, rather than a surplus, of manpower. The resulting manpower problems are likely to focus on upgrading through education and training, making better use of existing manpower potentials, and improving mobility, rather than concentrating on the issues posed by a high rate of unemployment and underemployment."

The JOBS Program began with a plea for industry help in meeting unemployment and underemployment problems. As it is evolving, it is moving rapidly into an attack on America's manpower problems by (a) increasing the potential work force, and (b) by stimulating the upgrading of in-plant manpower capacities to meet future demands.

There are many good reasons why business might become interested in a skills training program. None of these reasons, however, are as likely to persuade American businessmen as the promise of profit. The Oak Ridge operation is good business. The TAT project was undertaken for one primary reason—it promised to provide highly skilled labor at a low cost. It promised to widen the gap between the cost of acquiring this labor and the revenue these skilled hands would produce.

Witness the ways in which TAT has affected the cost of labor for the company:

1. It reduces labor turnover by hiring local people for local jobs.

2. It reduces the necessity for a nation-wide recruitment program.

3. It provides Union Carbide with a labor force trained to Carbide specifications.

4. It provides Carbide with a labor force that has reason to be loyal.

5. It increases the supply of trained people in scarce skilled areas and is, in a real sense, an investment in Carbide's long-term productivity.

In addition to these factors, those of us associated with JOBS feel a special necessity for an upgrading program, to be included in the basic program and also as part of a special program.

Without taking for granted the needs of the unemployed and the preparation they require to get jobs in the first place, a major challenge of the 1970's in the manpower field may well be job-upgrading. It will be the demand to devise ladders of progression and of jobs and to provide the training to make climbing possible. The whole spectrum will have to be dynamic, from the lowest rung to those shortage occupations which an advancing technology, a labor force insufficiency, and a flexible economy continually meeting new needs will always create.

The necessity of upgrading is upon us now for three reasons:

a. Many individuals have been exposed to and been given the opportunity for relevant training for the first time and a number of them want more. They do not want to stop at the level the first opportunity provided. Among many formerly screened out as unusable, some unusual talent and potential has been discovered.

Some of you have detected this in MA-3 and MA-4. Some persons you have "hired first and trained later" want to go further than dead-end, entry-level jobs and disillusion sets in if they can't see farther than that. If training can pick them up, why can't it move them on. Also, other employees have shown growing alertness to training efforts and begun to demand a similar opportunity.

b. Many unemployed persons work full time and still remain near or below the poverty level in income. The problem of low-wage earners has been generally unresponsive to economic improvement. Long-term unemployment may have decreased by 50 percent between 1961 and 1968, but the number of low-wage earners decreased by only 16 percent. They are a large group. In February 1969, more than 10 million persons earned less than $1.60 an hour, and 20 percent of all males working full time earned less than $4,500 per year. Employment may be a necessary but clearly is not a sufficient condition for overcoming

poverty. A number of these people could be helped by upgrading.

b. There is the skill-shortage occupational category. The educational and skill deficiencies of many entering the labor force are not adequate to fill all of these jobs. But upgrading from within can help a lot and at the same time create new opportunities for coming in at the lower levels.

The TAT experience should give insights to apply to both levels of training, and there is other literature at this conference describing other successful experiences. I urge that you give it critical attention.

THE NEED FOR COOPERATIVE ENDEAVOR

Finally I would emphasize that there is a need for cooperation from all segments of the nation's manpower forces, most of which are represented here at this conference.

a. First there is the need for industry to recognize the need for and to participate in the MA-5 program. As I said at the beginning, I am deeply appreciative of the hold industry has taken to date. But we are only at the start of a long and arduous task. I wish all those who clamor for instant programs and for instant success know how difficult it has been to get this far. But with the resources you can supply, we can make more headway.

b. The employment services in the various states must likewise heighten their outreach capabilities to get people into the program and refine their capacities to work in new arrangements and locations and to help provide better supportive services. The employment service is the prime deliverer of job development and placement service and in the last half dozen years it has been asked to revolutionize itself—a process it is still in the throes of. The process must and will go on. To give help in the same measure that we ask for industrial support will require more than you have done in the past, even where that is considerable and commendable.

It will require close coordination with local community agencies. The Concentrate Employment Program has been given a priority in the critical delivery of manpower when possible under JOBS. The employment services must ally themselves with these groups rather than regard them as rivals. The target population has to be convinced that this program can make a difference, and we need everyone's support in an effective manner. A casual or hackneyed coordination will not suffice when we need active, integrated coordination.

c. New occasions will bring new duties to the educational establishment. Various capabilities of the Vocational Education Act of 1963, the Amendments of 1968, the Adult Basic Educational legislation, and even of the Elementary and Secondary Education Act may all be brought to bear in new ways. Needed are new ways to work with the direct needs of the work force and to reorient past practices in the school room to a closely coordinated program with the shop.

In conclusion I am reminded of a story once told by the Danish philosopher, Soren Kierkegaard. He writes of a theater audience watching a series of acrobatic acts which greatly entertained them. Each act topped the one preceding it and grew more and more outlandish. At one point, an MC came to the front of the stage and announced: "There is a fire going on backstage. I think we have it under control, but would you all please leave the theater quietly and in an orderly fashion. But the performers kept on and the audience thought that the warning was just part of the total act. They remained in their seats, urged the show on, and treated the warning without regard. Then, without warning, the fire burst through the proscenium arch; flames and smoke belched out. The crowd saw too late that the warning had been in earnest, panicked, and many were trampled to death in the ensuing rush to escape. So concludes the philosopher: "Will our age, I sometimes fear, go down to a fiery destruction amidst the applause and laughter of the crowd."

I hope that we as a people can read the signs of the times correctly, realize a potentially critical situation, and cope with it before it gets out of control.

PROGRAM CONCEPTION FROM "The Gleam in the Eye"

Wendell H. Russell
Director, Training and Technology Project

The objective of my presentation is to review what the program developer should do prior to preparation of a project proposal for technical training of the disadvantaged.

Making the suggestions is easy.

Carrying them out in your home community requires making available a person with energy and enthusiasm—a person we can call a program developer.

First, what is a program developer? And, secondly, how does he do his job?

WHAT IS A PROGRAM DEVELOPER?

For the purposes of our discussion, a program developer is the person assigned by his company to put together a proposal to train the disadvantaged. In my remarks and in your workshop sessions, skilled and technical jobs will be the center of our concern. However, much of what we say can apply to all types of jobs.

Therefore, for our workshop, the program developer has a "gleam in his eye" about skilled and technical jobs for the disadvantaged.

Other desirable characteristics of a program development person include:

—Imagination

—High degree of receptability to the ideas of others

—Communication skills of writing and conversation

—Commitment to and an understanding of the importance of the development of our human resources

—Persistence and patience.

HOW DOES THE PROGRAM DEVELOPER DO HIS JOB?

First and foremost, do not try to do the program development job alone. The ideas and information you will need are not to be found in your office or behind your desk. Therefore, do not begin by trying to put that "gleam in the eye" on paper. There are many agencies and individuals in your region that have been working for years on the development of the human resources and other resources in your community. A successful program will need their ideas, information, participation, and support. The existing institutions and resources found in your own community can be the greatest asset in your program development efforts.

Next, we should say a word about method, the information needed and the approach to be used. You, as a program development man, are concerned about three areas of information:

1. Training Program Design
2. The Total Employment Process
3. Total Resource Development

TRAINING PROGRAM DESIGN

A training program for the disadvantaged can be looked at in terms of four basic elements:

1. People to be trained

—Age, sex, education, and degree of underemployed. What is their availability for training?

The training to be given

—Who is doing training? What are they doing? What is the capacity of the program?

3. The jobs to be filled and their requirements; skills and knowledge needed.

4. Supportive services for trainees and industry.

Therefore in making your investigation, you will need to collect information about all four of these elements.

THE TOTAL EMPLOYMENT PROCESS

Jobs, a central element in the NAB program, should not be studied apart from the total employment process of which they are an integral part. This total process begins with recruitment and includes selection, placement, training, and follow-up evaluation that can lead to upgrading or retraining. Jobs in this context become part of a dynamic human resource development effort. Thus, information and ideas need to be collected about more than just jobs.

TOTAL RESOURCE DEVELOPMENT

Total resource development is the broad context or frame of reference of which human resource development is a part. The development of our most valuable resource, human beings, cannot and does not take place in a vacuum. Thus, our program development

effort must take into account the available knowledge of the plans for the development of all of the resources—human, natural, and economic—in the community being studied. To train just for today's job is to train for economic stagnation.

A very successful approach for your initial exploration will be "eyeball-to-eyeball" program development. It may be the only way that these efforts can be assured of the time and attention needed to build a successful program. A recommended strategy for your personal visits is to start with your home company first. Collect information in all listed categories and details on the number employed full time who are still below poverty line (one-fifth of the poor who are heads of family work full time). List company resources—facilities, equipment, personnel, and technology—that may have application to training. Identify skilled and technical job openings. Tabulate company know-how regarding all segments of the employment process such as recruitment, selection, training, and assessment. Finally, what are your company's plans for future development? Now you are in a position to branch out.

A partial list of agencies includes:

—NAB—JOBS program

—Employment Service

—Vocational Education

—Other local industry

—Colleges and Universities

—Secondary Schools

—Adult Basic Education

—Community Action Agencies

—State-Federal Program Coordinator

—Regional Manpower Administrator

—AFL-CIO and their human resource development institutes.

SUGGESTED FIELD TECHNIQUES

Some tricks of the program development trade are given and you will discover others as you make your rounds.

—Maintain your focus on human resource development **objectives.**

—Say it twice—all program development ideas have to be repeated at least once and often more than that.

—Talk **program**, not problems—everyone has problems, but what is in demand and will sell is **program.**

—Be prepared to deal with those who have all the reasons why "it cannot be done."

—Learn how to by-pass the "no sayers." All organizations have them—go above, beyond, or around.

—Seek out the program developer type—each organization will have at least one—work with him; he will be the person with whom you can trade ideas.

—Keep in mind the importance of flexibility—it is doubly important in the early stages of program development.

—Choose to use the resources of existing institutions whenever this is feasible, in line with accomplishment of your objectives. This is part of the building-in process.

—Maintain your relationships with your program development contacts. Use copies of letters, program development memorandums, news releases, the telephone, and personal visits.

Once the field visits have been completed and the ideas and data collected, a program will begin to emerge, along with a structure for its accomplishment. You have examined the realm of the possible and a usable package will begin to emerge. Now is the time to prepare the draft of a proposal for circulation and review by those with whom you have been working. Out of this process will emerge your final product, produced by participation which can now "graduate" to program success.

This is not to say that negotiation of your final proposal will be an easy task. However, you will be well on your way to your final goal with three very good points in your favor:

1. A sound proposal based on local resources, needs, and participation.

2. The skills that you have gained as a program developer will serve you well in reaching final agreement on a funded program.

3. You have identified the problem; you have collected the data, and you have more knowledge about your resources at home. Now it's up to you to apply the resources provided to you under the JOBS program.

REDIRECTION OF COMPANY RESOURCES

J. Leo Waters
Manager, TAT Y-12 Program, Nuclear Division, Union Carbide Corporation

INDUSTRY'S PROBLEM

Increasing our corporate population of blacks, and of other minorities and disadvantaged, to at least equal to or better than the communities' ratio of the employable is a national and good business policy. Managers of most large corporations are being measured and graded by their success in implementing this policy. The total employment process is each supervisor's concern and yet we cannot increase operating costs, or reduce product quality, or delay the delivery time due to poor performance on the part of these people.

Then how do we manage this task? Not by hiring the disadvantaged "off the street" and letting them sink or swim, but by pre-employment and on-the-job training, and by changing the attitudes and reactions of regular employees from negative to positive. Some typical reactions from supervision might be:

—"How in the world can a high school dropout make an expensive quality product on a $250,000 numerically controlled machine tool?"

—"I am not in sympathy with hiring young, poorly educated whites and Negroes when we need good people with some college for our technician jobs—and they are available."

—"Too many people are living off welfare when good jobs are available."

—"I made it the hard way—let them do the same."

These are representative attitudes of some supervisors and foremen in the lunch and hall conversations in modern high-paying industries today. "Them" are the disadvantaged, a rather precisely defined group of people who are predominantly black and in a poor economic position from a lack of good jobs. Some are poorly educated, under 22 or over 45, or handicapped. "Them" also represent people with serious social problems (either obvious or hidden) in most of our industrial communities—school dropouts, underemployed or unemployed young adults, childbearing females without husbands at home, the mentally retarded, and those who are too old or sick to work. "Them" constitute industry's community problems because they are the principal source of riots, crime, high welfare costs, high medical costs, and higher taxes at all levels of government. Families with a poverty-level income represent over one-fourth of the population in the Oak Ridge-East Tennessee community area.

How can we in industry resolve these problems and accept them as a challenge and an opportunity? This is the question we in management, supervision, and staff must face.

There has been a community-industry gap comparable to the generation gap which engenders questions like: Who is responsible? Is it our job? Is it one of our missions or goals? What will it cost us? What will be the effects on profits? All of these questions can be resolved in each local situation by individual initiative in industry in cooperation with the other community groups. This fact is being demonstrated throughout the country with the support of the manpower programs of the Department of Labor and concerned businessmen. In times of labor shortages it is easier to resolve this problem and, in the long run, the problem must be resolved because our continued economic growth and prosperity are at stake.

Let us consider our new industrial responsibilities. We have a mandate from top management to support and execute the letter and spirit of the Equal Employment Opportunity (EEO) law. We must operate efficiently, be flexible in meeting changing demands of the quality-time-product mix. We must participate in the civic and social community by supporting United Fund drives, and join such service organizations as the Chamber of Commerce, Rotary, Lions, etc. We must hire and continuously train people to support these industry and community responsibilities. Can we in good faith serve both interests? We must!

As an example of how the Oak Ridge Y-12 Plant* is meeting these challenges, we would like to describe our experiences with the Training and Technology (TAT) Project. We would like to say at this point that, in addition to TAT, the plant has of course many other concurrent activities, all of which are necessary to serve our total responsibilities. These programs are implemented by such aids as a full-time EEO compliance officer, a vigorous minority recruitment process, on-the-job and apprenticeship training, and new patterns of cooperation with the community.

We shall describe some of the TAT Project expe-

*Operated by the Nuclear Division, Union Carbide Corporation, for the U. S. Atomic Energy Commission.

riences in the hope that other industrial managers, supervisors, and staff will be able to develop similar innovative, specialized plans to hire and train the disadvantaged.

KNOWING THE COMMUNITY

In order to understand the Y-12 experiences and to do something meaningful in your community, the community and its problems must be studied and understood. As a start, complete statistics can be obtained from local Economic Development Offices.

Unfortunately, most of the available reliable data are from the 1960 Census which, no doubt, is misleading in 1969. The 1970 Census should provide a storehouse of more valuable data.

Real learning occurs by becoming involved in such new community organizations as community action and housing committees and human-relation boards as well as business and social clubs. Perhaps the most important need (economic) according to the authors of one study "is the further development of a regional awareness, especially among business and community leaders." This is probably true in your region.

Union Carbide operates three facilities in the Oak Ridge area: The Y-12 Plant, the Oak Ridge Gaseous Diffusion Plant (K-25), and the Oak Ridge National Laboratory (X-10). The government's investment in these facilities is more than two billion dollars and they employ about 15,000 persons.

Our community recruitment-living area comprises, primarily, 16 East Tennessee counties with a population of about 700,000 of which 5.4 percent is nonwhite. This ratio is quite low when compared with a nonwhite percentage of 16.4 in the State of Tennessee and 11.9 in the nation. An interesting sociological situation is provided by the combination of a high concentration of professional personnel at Oak Ridge, the University of Tennessee, TVA, and other East Tennessee industries, coupled with a concentrated population of blacks in Knoxville and Appalachian whites in the rural and mountain areas. This region has the typical American problems—well-to-do suburban areas, the city ghetto, and the poorly educated rural residents who are being phased out of agriculture and mining. Being a growth center for industry with lots of good water, transportation, and power, the development of manpower for jobs should be a rewarding community-industry project if we can get the disadvantaged into the positive side of the economy.

Problems involving big industry, big government, big unions, and community groups become complex. Problems of power, prerogatives, interests, and personalities must be recognized, understood, and all given a part to play in developing jobs for the disadvantaged. In our particular program (TAT), local groups have formed a cooperative team with channels of communication that have been developed to bridge the gaps and utilize all resources. These groups are members of the TAT Advisory Committee which meets quarterly; and, of course, other community channels are available to provide advice and assistance.

There are many "tender toes" and prerogatives in a group of this size; and, unless this issue of working together is faced squarely, the disadvantaged don't have a chance. Industry's concern about interference from others seems to be shared by all groups, but the total power of all working together has been one of the secrets of success in the TAT project. Oak Ridge Associated Universities (ORAU) officials have been a key in this successful process to coordinate and promote TAT. The AEC's facilities and financial assistance, Carbide and UT personnel, and financing from the Departments of Labor and Health, Education, and Welfare have been the key resources.

THE Y-12 PLANT AND TAT, PHASE I

In 1964 and 1965, our plant's workload dropped severely and about 1,000 of the 5,700 employees had to be relocated or terminated. Many were at the semiskilled level and possessed a bare high school equivalency education. In the placement effort to get everyone a job, we were impressed by a strong need in the southern region for trained technicians and craftsmen.

Oak Ridge Associated Universities, a private nonprofit educational and research corporation that is sponsored by 41 Southern colleges and universities and with expertise in the areas of training and cooperative educational programs in the field of nuclear energy, made a survey for the Labor Department, with assistance from Carbide and the AEC.[1, 2] This study was the first step. As a result of this survey, the job need and underemployed manpower pool in the South was well identified.

Could this need and labor pool be linked with new training resources and techniques? The Training and Technology Project, Phase I (TAT I) was devised in an attempt to answer this question. Experimental and demonstration programs for both worker and vocational teacher training were conducted at the Y-12 Plant and operated by ORAU, UT, and Carbide through Federal interagency agreements between the AEC, the Department of Labor, and the Department of Health, Education, and Welfare.[2] Funds ($1,548,662) were provided from national pools rather than state allocations. ORAU administered the project and trainee allowances

were paid through the local office of the Tennessee Department of Employment Security.

Started in June 1966, TAT I was completed in September 1968. Final reports for the Teacher Training(3) and Worker Training(4, 5) parts of the program presented the results which have been considered by all parties as a gratifying and economic success in meeting project objectives.

To Carbide, as an industrial company, the project demonstrated that the complexity, patience, and perseverence required to work with the panorama of local, state, regional, and national groups was, at least, no greater than our normal business interactions. For the Carbide Y-12 Plant, meeting such challenges has been our bread and butter for over 25 years.

TAT worker training focused primarily on "underemployed" high school graduates, because of our concern to meet the "advanced" skill-level requirements of modern industry. Of those trained, a majority met the "disadvantaged" definition, too, and 81 Negroes (about 15 percent) were included in the 525 persons graduated. Since the Negro dropout rate was two and one-half times that for whites, additional trainee supportive services, adjustment of curriculum into more levels, and more intensive recruitment were found necessary. The first cycle of training of 52 weeks was reduced to 42 weeks in the second cycle, with about the same net effectiveness because of refined training techniques. The industrial atmosphere, that is, a plant with instructors from the related departments, industrial rules and regulations, discipline, safety programs, time clocks, and a 40-hour-per-week schedule—all just like a job—are considered important contributors to the TAT success. The trainees were job ready, as evidenced by a followup in January 1969, which showed that 95.6 percent were then employed in full-time jobs and 89.3 percent in jobs related to their TAT training.

But, we still weren't dealing with the so-called hard-core disadvantaged—the school dropout, a large Negro percentage, and others who would be screened out by the use of the GATB (Employment Security) and other tests. So, in the summer of 1968, TAT operated a 12-week summer pilot basic job preparation program. Recruitment was primarily from Community Action Agencies and Neighborhood Youth Corps (NYC) programs, and the Chattanooga area was included. Persons were brought into the Y-12 Plant for from one to three days per week for orientation to industrial training and basic preparation in a trade and related math, science, and communications. Of the 164 completing this summer pilot course, 117 were selected as full-time trainees in the fall when the TAT Phase II program began.

You might say that TAT I prepared Carbide personnel for the task of facing up to problems of the hard-core disadvantaged and the advantage of the TAT process for supplying our need for more personnel in 1968-69. There is a large labor pool of untrained persons available, but many Negroes and white disadvantaged would be screened out by traditional recruitment and employment practices. Carbide, as should be the policy for all plants over the country, has reevaluated its pre-employment program and is depending more upon the concept of assessing the total person, including the disadvantaged who are trained in various manpower and vocational school programs and can demonstrate trainability and initiative. The need is recognized for more training of newly employed persons and on-the-job development of skills. This is especially true in clinical and operator categories. But we, like most in industry, need trainees at an advanced skill level. It may take more TAT-like projects to provide the qualified entry-level candiates.

THE Y-12 PLANT AND TAT, PHASE II

TAT II has been operating since October 1968 with 190 training positions. More than 130 graduates have been employed by Carbide after about six months of training. The curriculum and courses described in this report are for TAT II. Trainees for TAT II are mostly disadvantaged persons (85 percent) with a minimum Adult Basic Learning Examination (ABLE) math score at the sixth grade level. Forty percent of the enrollees are from minority groups who appeared in interviews to be trainable for upgrading to an industrial entry level for employment by Carbide or other similar industries. No other tests were given for initial screening purposes. A battery of various academic tests (as well as medical and aptitude tests) was given, in cooperation with the University of Tennessee, after the training period started. These tests were given for experimental studies and to help in counseling and placing trainees in the various levels of related courses.

Interestingly, the TAT II trainees who were "more disadvantaged" (compared to TAT I trainees) seemed to have the better attitudes and motivation. In short, they appreciated the opportunity. Their placement in a related study course beginning at their level provided immediate learning successes and the "hands on" shop training caught their interest.

Throughout TAT, discipline has been relatively easy to maintain, simply because the industrial approach severely discourages such actions as horseplay, talking back, sleeping, or reading the newspaper. Industrial supervisors, guidance personnel, and university people did not always agree concerning such matters as the degree of severity and/or approach to discipline and the extent of supervision of the

trainees' time, but all parties learned to moderate their positions to suit the training objectives. Subsequent followup studies of trainee success and/or problems in actual employment have substantiated the need for firm and forthright procedures.

ACCEPTANCE AND ATTITUDE

Industrial training may be defined as an orderly planned effort by a group of management representatives to bring about a significant change in an individual or group of people. Each individual is different, but most have conflicting attitudes which resist change, especially in the work-a-day industrial environment.

Acceptance of changing conditions does not come easily and association with a large group of disadvantaged people tends to multiply the industrial problems for training staff personnel and supervision.

Disadvantaged people have severe problems. They have been unemployed or underemployed and, thereby, are victims of poor economic conditions. Their social contacts are limited to people of similar circumstances. Personal problems are numerous and self discipline to industrial working conditions must be developed. To accept an individual with so many problems and handicaps requires a change in the attitude of plant personnel and this creates a resistance to change. And yet, change is inevitable.

Union Carbide Corporation has a very effective affirmative action plan. This plan is spelled out in part by the statement: "It is the policy of the Corporation to afford individuals of all religions, races, colors, and national origins equal opportunity for employment, for advancement in employment, and for continuation of employment, with due regard for the relative qualifications of all involved." Success of this policy is primarily dependent upon the individual attitudes of management people, from the highest corporate officer to the front-line foreman and his subordinates.

Minority employment in substantial numbers has tended and will tend to create changes in attitude, in time, provided the candidates for employment have been given a head start in entry-level training programs so that they can be expected to perform capably and competitively.

The involvement of foremen, engineers, and craftsmen from the plant on a semi-permanent or loan (five hours per week) basis has resulted in all departments accepting the project and contributing to TAT program objectives of training and hiring the disadvantaged. The successful operation of the TAT Project for the past three years clearly demonstrates that industry, education, government, and labor can, with mutual cooperation, train and place on jobs large numbers of disadvantaged people. Acceptance of disadvantaged people with proper training for entry-level classifications which are not "dead end" will help meet the Corporation's declared policy of affirmative action and result in good productive employees.

ADMINISTRATION

As stated earlier, the TAT project involved personnel from many industrial, governmental, and educational organizations. The following three-element approach to the direction of TAT is typical of the approach proven effective at the Y-12 Plant for many jobs of varying size, urgency, and quality requirements involving one or more organizations outside the plant:

1. Program Manager

A person affiliated with some industrial relations function is assigned to represent the plant with outside groups, and to represent outside groups with the plant departments. He has the freedom and management support to: develop and negotiate program plans (scope, costs, time, etc.), keep abreast of information about the project inside and outside the plant, obtain plant resource commitments and assignments (people, space, and funds), and resolve problems as they arise.

2. Staff Coordination

The plant training director and staff for TAT is assigned the responsibility to coordinate and resolve internal plant problems, make the day-to-day contacts with other agency personnel in the plant, and develop and administer a unified work plan, including curriculum(6), instructors, rules for trainees(7), recruitment, selection, placement, safety, accounting, security, and health services.

3. Line Organization

The real responsibility for performance lies with the department assigned the actual training; i.e., the Electrical Maintenance Department for electronics training. These departments have the know-how, personnel, and facilities to get the job done and can be held accountable for quality, costs, and results. Each area of training is headed by an assigned Training Supervisor from the appropriate line organization of the plant.

These three elements working together as a team "involve" a significant portion of the plant personnel in working to meet the program objectives. Each person on the "team" is an individual, using his own personal approach to problem solving and leadership.

MANAGEMENT TECHNIQUES FOR TAT

There is considerable freedom for each training supervisor and instructor to handle his group—decide upon books, course outlines, work projects, find instructors, discipline trainees by their standards, pay or not pay for absences, etc. Each trainee learns he must work for a variety of supervisors (instructors), each wanting it done his way.

If there is one word describing the basic necessary ingredient in a new plant endeavor such as TAT, it is flexibility. Everyone on the TAT team has learned to live with changing plant and project objectives, new kinds of trainees, and lots of "help" from others. A flexible and innovative atmosphere is maintained. As a result, we think the trainee has benefited. Instructors revel in turning out employable trainees. To quote Professor David C. McCleland, Harvard Department of Social Relations: "Where you find too great a demand for conformity, you'll find a low performing company."

Other helpful factors include:

1. The TAT team, Carbide-ORAU-UT, are in the same building (except the project director and program manager), and most of the training occurs in this building.

2. An informal sensitivity-training session of two and one-half days was held at a local resort for the TAT staff early in the program. This activity reduced the normal get-acquainted time to a minimum.

3. An occasional TAT staff seminar has proven effective.

4. Simple graduation ceremonies, with group pictures of trainees and instructors, special speakers, family attendance, and news coverage, have been held. This publicity and a flow of other news about the project and individual trainees has resulted in good public relations.

5. Adequate progress reports and other TAT publications have kept project personnel and other agencies well informed.

6. An Operations Committee of one responsible representative each from ORAU, UT, and Carbide has spur-of-the-moment meetings to resolve problems and take action.

7. The Y-12 Plant Industrial Relations Superintendent has kept a day-to-day interest in TAT, provides the link with top management, and helps blend the new TAT working relationships and other agencies into normal plant operations.

8. Close working relationships exist between the ORAU Project Manager and Carbide's Program Manager, through frequent telephone calls and luncheon meetings. Problems such as program changes, roadblocks from conflicting interests, and policy matters are resolved.

9. The Carbide man-on-the scene, the Training Director, has worked as a master coordinator with his counterpart from ORAU.

Other persons and techniques should have been covered, no doubt, but the intent of this report is to highlight the subject of training the disadvantaged under complex conditions.

ATTITUDES FROM THE TRAINEE'S POINT OF VIEW

It is generally agreed that the disadvantaged can work in industries throughout the nation when given an honest chance to prove themselves and to participate and work as employees and not as disadvantaged or black employees. There is an impression that many industries and their personnel look upon the disadvantaged person as an individual that they must hire or lose a federal contract. Many individuals do not try to understand the disadvantaged; and, because of their attitudes, the disadvantaged employee fails to try to understand the employer. This attitude causes a communication breakdown on both sides. There are many fallacies in past and present ideas regarding employment of the disadvantaged and black individuals, and many possible remedies for those who seek them.

DESCRIPTION OF TAT II COURSES

The TAT II Worker Training Program includes experimental, entry-level and technical courses.(8) The curriculum for the worker trainees is constantly being adjusted to suit the trainees' needs and to use new resource materials. Modifications are made on recommendations of vocational education consultants and the project staff. An evaluation of the needs and interests of the trainees is made, and a continuing evaluation of trainee progress and response helps to influence the course content and emphasis. The course information is based upon two and a half years experience with a variety of trainee levels.

Maximum advantage is taken of the prior experience, training, and education of the trainee to build on existing skill and knowledge. Supplementary assignments are made to foster development of each trainee in the specialized field of his interest. The theory and shop or laboratory courses include a variety of applied problems. Various courses working together design, fabricate, and test a product that will simulate the typical industrial work process.

This program includes 40 hours of concentrated

training on an eight-hour, five-day week, for a maximum of 52 weeks and an average of 26 weeks (6 months, 1,000 hours). (In addition, a trainee may work up to 20 hours per week at outside jobs to assist in supporting himself and his family.) Therefore, periods of "directed study" are also provided to make maximum use of individual study under controlled conditions. Included in this phase are tutorial help and adequate library facilities. Homework is also expected. An average of one hour per week during certain periods of training is for counseling and guidance services. This time will be taken during laboratory, shop, or directed-study periods. Trainees enter at various times, but we try to schedule major shifts into and out of the program on a three-month (quarterly) basis.

Is six months of training sufficient? Most post high school vocational and technical school courses are for two years or 3,000 hours, with a one-to-twenty teacher/pupil ratio. (Six hours per day, 50 weeks per year for two years.) In six months at TAT, we offer 1,000 hours (eight hours per day), or one-third of a standard two-year program with a one-to-twelve teacher/pupil ratio. This lower ratio and the utilization of a variety of instructors are very important in this intensive, no-frills course. We are very proud of the emphasis on related courses—mathematics, science, and communications—so that the trainee has an educational base upon which to build over the years. Six months of intensive training is sufficient. Obviously, a little bit more would be better, but costs increase proportionately.

The curriculum is designed to permit entry at the level of sixth* to twelfth grade academic equivalents in mathematics, science, and communications. Advancing technology means jobs requiring greater knowledge of science and mathematics. Communicating with others, especially in the areas of listening, reading, speaking, and writing, is very important for industrial employment. The keynote to this program is "flexibility" and "diversity" so as to assure a well-rounded trainee when he enters full-time employment.

Most related subjects and tutoring are conducted by ORAU instructors. The success and acceptance of related academic courses depends on coordinating the content very closely with the Carbide skill training.

Special and published instructional materials are provided, such as for GED (high school equivalency) and basic education courses, applications for employment, security clearances, etc.

Training is offered in the following areas:

Mechanical Drafting

Electronics (instrumentation)

Welding

Physical Testing (radiography, metallography, and various non-destruction testing methods)

Chemical Laboratory Aide

Machining

General Mechanics (various production operations or entry into apprenticeship programs)

The typical curriculum includes math (5 hours per week), science (3 hours per week), communications (2 hours per week), blueprint reading (2 hours per week), and the balance of the 40 hours in technical lecture and shop courses.

TESTING

The testing program, as it applies to the Training and Technology Project, serves two primary purposes: (1) It provides data for related class assignment of trainees within the program; (2) It provides data for research and development conducted during and after each training cycle.

So far, pretesting of candidates for machining positions at Y-12 and of candidate trainees for the TAT program has proved to be very unsatisfactory as a method of predicting the candidates' acceptability for and performance in training. Taken individually, scores on tests covering intelligence, mechanical aptitude, reading, mathematics, and dexterity show, at best, only weak correlation with supervision's subsequent evaluation of the candidate. We hasten to point out, however, that some test scores have predicted grades very reliably in certain of the candidate's peripheral activities. For example, a TAT candidate's scores on reading tests forecast his grades in communications courses quite well. Similarly, mathematics test scores were reflected in trainee's grades in mathematics courses. No tests, however, adequately forecast performance evaluations in the shop courses. It is probable that some mathematical treatment of the scores on a battery of tests might provide a figure of merit concerning somewhat higher predictive ability, but we doubt if such a measure will be found to be adequate to sort the fit from the unfit.

Our pessimism on the role tests can play in trainee evaluation is founded on our belief that the basis for supervision's rating of a trainee or employee

A minimum ABLE math score of the sixth grade level is required for entry into TAT. This means the trainee can use fractions, decimals, and negative or positive numbers, and is ready for basic algebra and geometry. Even most high school graduates have had only a ninth grade review. Only a few have taken real high school level mathematics.

is fundamentally the result of a set of attitudes evidenced by the individual being evaluated. An employee is evaluated and, in fact, performs according to his motivation, ambition, willingness, or initiative. Tests used to date do not attempt to measure these qualities. The present testing program does isolate the extremely deficient from the extremely gifted. For example, the TAT requirement for a minimum ABLE sixth grade mathematics score is one way of defining "trainable" persons.

COSTS AND BENEFITS

TAT Phase I demonstrated that methods were available to upgrade underutilized persons in one year or less so that they could enter skilled industrial jobs at an average wage rate that was nearly three times their prior earning level. Results show that 95.6 percent of the graduates were employed in full time jobs.

The data below summarize the costs and benefits per graduate:(5)

Projected training costs in TAT Phase II (FY 69) for 300 graduates and 30 weeks of average training time are estimated to be about the same as shown for Phase I even though Phase II trainees include a greater percentage of disadvantaged (85 percent) and minority (over 40 percent). Preliminary estimates for a continuation of this program in FY 70 indicate that costs will increase a minor amount.

Close project cost control is maintained to live within the budget and to account for all costs incurred. The budget is based on full cost recovery as required by the AEC. The Carbide accounting system is based upon a rate in dollars per hour for direct labor (instructors) and direct materials. Labor rates vary with the department (10 to 15 dollars per hour) and includes such costs as overhead, burden, maintenance, and clerical.

Of course, training must continue on the job, since a six- to nine-month entry-level pre-employment training period is not sufficient for many technician and skill-level positions. The trained disadvantaged can become real assets if industry is a participant with education in developing this resource of workers.

CONCLUSIONS

This, in summary, is our history in bringing technical training to the disadvantaged. It is a story of the redirection of company resources—space, equipment, personnel—and the will to do the job. We suggest that the job cannot be done effectively without community-union-industry-education-government cooperation and participation. The attitudes of many skeptics in each of these organizations about the value of properly-trained disadvantaged in the work force can be changed. We hope that you will take heart and develop your own approach and program with energy, imagination, and perseverance.

Costs (FY 68)		Benefits		
To Government (42-week cycle)		To Trainee and Economy-Annual Wages		To Government-Annual Income Tax
Training	$1,679	Pre-TAT	$2,125.60	From Trainee in Increased Wages—20% of $3,885.60
Support Allowances	2,301	Post-TAT (1/69)	6,011.20	
Total	$3,980	Increase	$3,885.60	$777

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* *A limited number of these TAT publications are available upon request from TAT, Box 117, Oak Ridge, Tenn. 37830.*

PRODUCTION AND QUALITY CONTROL IN TRAINING

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The concepts of production and quality control in training raise images of trainees as objects to be processed, to meet tolerances, or to be discarded if found faulty. One pictures an assembly line, with impersonal measurements against rigid standards. These concepts in this form are not compatible with human resource development in a free society. People are not objects. They cannot be treated as units of production and measurements cannot be precise, if we are to retain our image of each human being as individually valuable for himself and as having equal rights with others. However, we cannot escape the need for production in training programs, insofar as production is the efficient and effective application of resources to the achievement of desired objectives, nor can we ignore the need for standards and measurements just because these are difficult and carry with them dangers.

My assignment today is to encourage your attention to the objectives and standards against which we should measure achievement in human resource development programs. Tools of measurement have been touched on by other speakers and can be identified with a little imagination. My concern is the question: "What are the criteria of success in programs of this sort?" The question of criteria is very important in the design of programs and in program operation. One must know what his measures of success are going to be when building a program and carrying it out. It's like the man who met a friend on the street whom he hadn't seen for some time. He went up to him and said, "How are you?" The friend said, "I'm fine," and he said, "Well, how is your wife?" The friend thought for a minute and then said, "Well, compared to what?" We have to concern ourselves with that question, "Compared to what?" What are we measuring achievements against?

Before I go further with that, I would like to underscore a few things that I have heard at the conference that are related to this question of what is important. One observation is that traditional employment procedures and traditional training programs have been concerned with screening people out. For many years, my experience was in the personnel field here in Oak Ridge. Our personnel effort was designed to eliminate risks insofar as possible. We tried to reduce the number of applicants on the basis of some self-screening. Then we tried to reduce those who were seriously considered through testing, interviews, etc., so that in the final analysis we employed the person who had the greatest chance of success. The same thing has been true in training programs and it is true in much of our educational system. Carried to the extreme, this screening-out process can assure

success entirely, if success is measured against some absolute standard. For example, if the University of Tennessee College of Engineering took in as freshmen only people who had completed degrees in graduate engineering, they could probably be assured of 100 percent graduation of qualified engineers. Of course, this would be nonsense, but to some extent our institutions have been doing this; i.e., assuring success by minimizing risks at the outset.

In trying to serve the disadvantaged, we have to turn this process upside-down. We have to take in people that we would have normally screened out. We have to screen them in. This means we have to have a new standard of measurement, which we probably should have had all along. The measurements of success, in training, should be against the degree of change—against the increment of change brought about in the person, rather than the person's position relative to some absolute standard. Now, we must recognize that every program has limitations. It can't be all things to all people. There must be some entry requirements. There must be some standards for completion. However, the attitude of screening in and of measuring progress instead of product alone is very important in human resource development.

One of the difficulties in human resource development is that we find more than one objective being served. This makes our search for the true goal or the real objective frustrating. We constantly want to know: What are we really trying to do? This question in the human resource development program cannot be answered in one dimension. To think in more than one dimension is a difficult concept for many of us. However, this is what we must do. One-dimensional approaches to human resource development can result in serious deficiencies. At one extreme would be exploitation of a person as a tool, where the trainee is seen only in terms of his muscles, his mind, or his skill in relation to the production of some product or service. This is not acceptable in a free society. On the other extreme, one-dimensional thinking about human resource development can result in training programs with no real job orientation and no objectives in terms of production, which result in frustration and futility. We have all heard examples of this kind of training.

So when we talk about training, we must talk about a variety of objectives. These different objectives spring in part from the variety of participants in the training process. To a large extent, human development programs or manpower training programs are an organization of vested interests. (I use the term "vested interests" in a positive, rather than a negative, sense.) Each participant views the training from a different perspective and has different objectives. Participants include industry, government agencies, educational institutions, the trainee himself, the community in which the training is taking place, and those who are directly providing the training as managers, supervisors, or trainers. Each has his own set of objectives, all of which may be valid. Sometimes they are conflicting, and one of the tasks of management is to reconcile conflicting objectives. This requires a great deal of flexibility. To have more than one objective means you must be flexible. We heard several times in this meeting that flexibility is essential.

One thing on which we can agree is that the central focus in training programs must be on the trainee. It must be on the trainee rather than on some rigid process or rigid program of training. The program must meet the trainee's needs if it is going to develop him. The training program must be responsive to change. This has certainly been true of the TAT program. Changes are something we all talk about, but I don't believe we've really digested the fact of constant change. We still tend to think in terms of some static situation in which stability is achieved and we have solved our problem. This is a luxury we are not going to have in our modern world. We think if we can just solve this problem, if we can just get our training program started, if we can just get something organized, then we are home free. But we find this isn't so. The process of development, the process of change, is continuous and requires continuous response. **This** is the need for flexibility. The TAT program has changed greatly. When you ask, "What is TAT?" the answer you get will depend on the time in which you ask the question. TAT has changed in its financing. It has changed in the trainees it has served. It has changed in the subject matter of training. It has changed in the length of training. It has changed in the various components of the program. And it will change further. TAT really is a **concept** rather than a specific program, except at at any given moment. This may make us unhappy because we like things to be nice and tidy, but this is something we will have to get used to. It may be more difficult for our generation than the generations following us.

Now let us look at four sets of objectives, or what might be called four program goal channels that I feel are separable for discussion purposes, even though they are greatly interrelated. I think for purposes of discussion it would be well to look at them separately. I'll start with the most obvious and perhaps the least difficult to deal with. They tend to become increasingly difficult.

The first general goal is job training—individual job training. This is a goal that all of us can under-

stand. Preparing a person for a specific job, filling the job with a trained person, are clear objectives and central to all training programs of this type. This goal is clearly of primary interest to the industry involved and to the person involved. To accomplish this, the trainee must be given skill training, related instruction, supportive services, and all those things of which you have heard. The measurement of success in this goal channel is relatively easy. Placement, tests of skill, later job experience, salary improvement, are all measures of success in achieving this purpose.

If, however, we keep this goal alone in mind and apply the standards of job competence alone, then we would limit the input to just those things that are necessary to accomplish that specific objective. In my judgment, this is not enough.

The second goal has to do with longer-range productivity of the person—that is, preparing him for changing jobs, for further development in his chosen field. We might sum this up in saying this goal is **trainability**. We not only want to train a person for a job—we want to provide him the tools so that he can continue to develop himself in terms of the changing needs of our economy. Now, how do you achieve trainability over and above training the person for a job? To suggest a few items, you must stimulate the trainee to think in these terms. The filling of an immediate job upon graduation is not the end—for he must have stimulation to continue. You must be concerned with the way in which the person is trained, i.e., the **process** of training as much as with the **content** of training. The trainee must learn how to learn. He should be given opportunities to discover answers for himself, instead of just being handed answers to problems. If he learns the processes of problem-solving, he should be able to apply it to areas other than that for which he is being immediately trained. Therefore, process becomes as important as content. Success in achieving this goal can be measured by later job growth, by continuation in training programs, by long-term personal development, and by success in adjusting to changes in job requirements. This asset of manpower training is of great interest to those in government responsible for the manpower development of our citizenry and, of course, to the trainee and those who use manpower in our economy.

Now, going beyond individual job training and trainability, I would suggest a third and more important objective, and that is the **improvement of the quality of life** of a human being. This goal, of course, is central to the goals of all of our institutions in a free society. It certainly should be a part of any human resource development program. This is not just a goal in the by-and-by somewhere in the future, preparing the person to have a higher quality of life later on. Rather, it is an immediate thing, with us constantly. The trainee who enters training should immediately realize an improvement in the quality of his life. The training program should provide the ingredients necessary for this to happen. This means there must be concern for the individual, and the individual must know that there is. He must understand that he is not simply a tool. In my opinion, this is essential to the success of any training program. This means that the training program must be concerned with changing self-images. One of the great problems of the disadvantaged is that they don't see themselves in a very favorable light. They must begin to develop confidence to see themselves in a way in which perhaps they haven't before. It means helping the trainee identify talents and potentials and helping to unlock them, whether or not they are directly related to his specific training area. It means development of interpersonal relations, so that the trainee begins to learn the techniques of getting along in the system in an effective way, in a system from which he has been excluded. It means the opening up of opportunities for the trainee in many areas and helping him see the new opportunities that are now available to him. He needs to be helped to develop aspirations which he hasn't had or which he hasn't dared to admit before. This quality-of-life improvement is available to the trainer as well as the trainee. The trainee should recognize that his relationships with others improves the quality of their lives as well as his. All those who are involved in the training process from the supervisory, management, or instructional point of view should gain something from the experience.

Measurement of achievement of this goal is very difficult. We might, however, observe that this goal can be achieved, even if the others fail. If, in the process of bringing this person into the training program, he improves his personal life, his capability, his image of himself, his interpersonal relations, then even if he is not able to complete the program in terms of filling the job, we have been successful because the increment of improvement is one of the measures of success rather than achievement of some absolute standard. It is important to pass some of this concept on to the trainee so that if he doesn't satisfy the requirements of the training program in the formal sense, he still doesn't feel that he has failed. This requires careful counseling and guidance. It also requires a relationship with the trainee such as the members of the TAT staff and others participating have. I think they have a very enviable relationship between staff and trainees.

The final general goal is perhaps the most difficult and that is the **institutionalization** of the process

of training and all that goes with it. Too many special projects have been developed in the last several years, largely with the sponsorship of the Federal Government, that have done things outside of traditional institutions with no concern for changing those institutions or those processes that have in part been responsible for the need for special projects. One of these special projects should be to help change our nation's institutions and processes so that it doesn't always require special effort to do the things we need to do. Successful methods developed by special projects must become a part of our way of life.

This is an area where TAT needs additional work. I think it is open to question whether or not the kind of thing that is going on at TAT would continue at Carbide or in the other participating institutions, if TAT ceased to exist. Certainly, there has been some impact. Certainly, some things have been learned and would continue as has been pointed out earlier. But, how much? There needs to be a deliberate effort of the training program to create institutional change and to institutionalize the process.

There is danger in this because, when we talk about institutionalizing something, we tend to get locked up. We tend to get things locked into a rigid pattern and this would defeat our purpose. What we must institutionalize are not the procedures but rather the concepts and the relationships, so that these things become part of our way of doing business. At the same time, we must avoid fixing procedures forever so that they can't change. How do you do this? The most obvious way and the most important way is through involvement. It means that the different institutions concerned must be involved in the training process. They must play a role. They must help plan and execute the program. The measurement of achievement of this goal is institutional change. Are procedures changing? Are policies changing? These things can be determined fairly well.

Those are the four major goals of training programs as I see them—individual job training, trainability, human development, and institutional change. These, of course, are all interrelated and need to be integrated in the pursuit of a total program. I feel that each one can be better achieved in conjunction with the other.

One other necessary concern of the training program which should be mentioned is that of survival. It is necessary to maintain an organization while trying to achieve objectives. Therefore, for the management of a program, the question of survival is essential. This is also dangerous, because it can become the one objective—the continuation of a pet project or the continuation of an individual job. However, the question of survival must be faced squarely, if a program is to accomplish its goals. Survival often depends on change. Here again, the requirement of flexibility is clear. We must keep our eyes on the objectives but open to alternative ways of approaching them.

This variety of training goals makes coordination a full-time job. It calls for constant interpretation of objectives and of achievements to the various participants in training. Industry must be reminded of the benefits that it is receiving and of the contributions it is making. You have heard of some of these benefits and these contributions. It takes a constant attention to interpretation of goals and accomplishments to keep the interest of industry in the training process. The same is true of the trainee. The trainee will need help in interpreting how he is progressing, what goals he is meeting, and his relationship to the total training process. With government agencies sponsoring programs, it is also very important to keep them informed, to interpret to them how the program is meeting their legislative mission—to provide them information for use in their planning and in their program development. The same is true of educational institutions. How does it benefit them to participate? What contributions can they make? What difference does it make whether or not they are involved? These things require interpretation. Finally, interpretation is needed in the community. We heard earlier that the attitude of the local Negro community has an impact on the TAT program and the development of better attitudes increased the tenure of some of the participants. It is very important to help interpret to the community the needs and the contributions of the training program. This process of interpretation should be used to create a "program culture." A program should develop a character which people understand and to which they respond in terms of standards, expectations, and other facets of response.

In summary, Mr. Odell mentioned that we need new combinations of resources and that is exactly what this conference is about. You have, in your community, training needs. You have, in your community, training resources. You have, in your community, supportive services. You have access to funds. All the ingredients are there. What is needed is leadership and management—some way to start the cycle and to continue it from planning to development to financing to operation to evaluation, to planning, development, financing, and on and on in a never-ceasing cycle. To do this requires will, requires commitment, requires talent, and, perhaps most of all, requires a refusal to accept excuses. If you are looking for reasons not to do something, you'll find many. If you refuse to accept excuses, and keep your mind on goals, you stand a good chance of success.

DIGEST OF WORKSHOPS

SETTING UP A TRAINING PROGRAM IN INDUSTRY FOR THE DISADVANTAGED

1. Is training in industry required to take place under an MA-5 contract?

By no means. An MA-5 contract is designed as an incentive to employers to engage in training disadvantaged and to begin to assume the responsibilities of in-house training to upgrade employees still below the managerial level, by assuming a public cost for extraordinary expense.

Nothing precludes any industry from assuming the entire cost itself. The problems of management, program development and conduct, hiring, and all other aspects of a good training program remain the same. To the extent desired and within time available, just as much technical assistance and help will be extended to employers desiring to engage in training of the disadvantaged without an MA-5 contract, as to those under one.

2. What assumptions were made about training the disadvantaged?

Two assumptions generally governed the discussion:

a. Technical training is desirable and necessary for the individual, industry, and the employment process.

b. Technical training for the disadvantaged is difficult and demanding work.

Some believed that training for the disadvantaged is not really more difficult, but merely requires more time. Others pointed out that the disadvantaged have special problems relating to cultural and academic background, attitudes, motivation, etc. The disadvantaged also tend to have financial, legal, and other problems which may interfere with their attendance and progress in training. A problem noted in several states where there is a shortage of female power was that some agency has to help in staffing child-care centers so mothers on welfare can work.

It was agreed that there are many degrees and levels of persons who are "disadvantaged" and that one cannot generalize easily. Trainees must be dealt with on an individual basis.

3. What are some desirable contributes of a program developer and manager?

Conferees gave considerable attention to this. Among special attributes cited were:

a. He must have imagination mingled with dedication and commitment.

b. He should have substantial skill in communicating with others, and should have an understanding of the principles of human resource development.

c. He should have patience and persistence in knocking on many doors and pursuing different avenues for the achievement of the goals of a good training program. He must receive information, on a face-to face basis, and **send** information.

d. He should have an outgoing manner and be flexible in ideas and approaches.

e. He must know the needs and capabilities of his own company and the peculiar requirements of the local community. He must tailor the training program to the needs and resources of those involved in the local program.

4. Should direction of the program be from within or without industry?

In establishing a training program, cooperation between management, unions, educational establishments, and various government agencies is necessary. Participants at the conference believed that the director of the program must be able to unite the vested interests of the respective groups. There was, however, disagreement about whether the director should come from within one of the sponsoring groups or from an impartial outside source. Those associated with TAT pointed out the advantages of the direction of that project by Oak Ridge Associated Universities: the director has more freedom to function and experiment because he is an independent agent; he has easier access to the upper echelons of the sponsoring groups; and he is, therefore, able to coordinate resources better. Some discussants, however, who believed that the director should come from within industry, emphasized that some businesses do not want an outsider running a plant program, that someone who knows the system may indeed be able to function within it better, and that every community does not have an ORAU or the capability to form one. If the director does come from within the company's ranks, however, his independence of action should be as complete as possible, his singular concern being that of the program.

Union cooperation is an essential ingredient for

successful technical training. TAT included the unions at each step of the program. Concern arose that the project would interfere with established apprentice programs and project staff had to assure them that trainees would only be prepared to enter apprentice programs. When union members served as instructors and helpers in the training, they in turn help to assimilate trainees into the job situation. In dealing with areas covered by a union contract, such as job bidding, a training program always adhered to the contract.

9. What kind of recruitment and publicity is desirable for an industry training program?

Replies to questions on recruitment named newspapers, radio, and RFD mailers as effective publicity methods. Applications for TAT training were submitted to the Tennessee Department of Employment Security, which also administered a limited number of tests. After the program was under way, newspaper articles brought more applications and encouraged other industries to train the disadvantaged. However, Union Carbide union members insisted that the media not label trainees as drop-outs, for they feared other students would drop out of school so they could work for Carbide.

6. What kinds of screening or testing devices are desirable to apply?

While it was emphasized that the general aim was to "screen in—not out" it was recognized that there are limits below which one cannot go and expect to produce high-level entry skills for technical occupations in nine months. It was the experience of TAT, however, that conventional aptitude and other test batteries provided no prediction of success in training. The only thing that seemed to have significance for success in training was a sixth-grade capability in math and English. With this much to start with, one could make the program work about as well with one individual as with another, although some took a little longer and required more individual attention.

7. What are the benefits of training in an industrial atmosphere?

Much discussion centered around the nature and benefits of the industrial climate or atmosphere of the TAT project. It was pointed out that the industrial atmosphere at TAT promotes the job-relatedness of the training and aids the occupational development of the trainee. The TAT trainee goes through the gates of the Y-12 Plant as do regular employees, punches a time clock, and is trained by experienced technicians and craftsmen who treat him as an industrial employee. Most agreed that this environment is more desirable than one isolated from the job situation. Also, participants believed that the positive, tangible, job opportunity at the end of the TAT training program is a very good incentive and motivating factor in the development of trainees.

8. What training methods were cited particularly by observers of TAT?

Several participants mentioned the relatively high ratio of instructors to trainees in the TAT program. This ratio, approximately one instructor to 12 trainees, makes possible more individual attention and a more intensive, faster-paced program in general. Many believed that the vocational schools should profit from this experience and increase their instructor-trainee ratios. The primary obstacle in such a move is, of course, lack of sufficient funds. However, while more instructors involve more cost outlay, the resulting program can train more persons to do it faster.

Another item which impressed conferees at TAT was that each trainee was allowed to progress at his own rate. In the flexible training program, trainees are grouped according to ability and level of attainment, and each trainee receives instruction suited to his own needs, interests, and capabilities. Thus there is no set number of courses or hours for any individual. An individual stays in training for just the length of time required for him to develop his skill to an entry-level competency, i.e., until he is "job ready."

9. How may supportive services best be coordinated with skill training?

In developing a training program, supportive services must be coordinated with skill training. Carbide representatives discussed their methods of having Oak Ridge Associated Universities teach the less difficult courses and using industry personnel to teach advanced courses more related to specific job tasks. When discussing the advisability of having a block of pre-vocational training before and separate from OJT, the necessity to attach skill training to the industrial setting was reiterated numerous times. Under an MA-5 contract where the employee is hired before training, prevocational training and OJT may be combined in a balanced work-learning schedule.

10. To what extent is transportation a problem of trainees?

Solutions to the constant problem of transportation were offered from several cities. In Chicago, other employees included new trainees in car pools; when the trainee was economically independent, the credit union underwrote loans for buying cars. Also

in Chicago, some employees paid an older fellow with a car to round up other trainees and get them to work.

In Baltimore, Westinghouse moved the training program to a downtown area, since the plant was out of the city.

A booklet by the Chicago NAB on how transportation problems have been met there is available from the NAB office in Washington: 726 Jackson Place, N.W., Washington, D.C. 20506.

11. How does one meet the problem of first-line supervision of the disadvantaged?

In adapting TAT techniques for use in an MA-5 program, conferees concentrated on the problem of the first-line supervision of the disadvantaged. Full support of the program from top-management must be made obvious to the supervisors and must make them aware that they are being evaluated on their ability to work with the disadvantaged. Sensitivity training or awareness training proved to help supervisors in dealing with all employees, not just the disadvantaged.

12. What are the values to an industry of operating a training program for sub-managerial employees?

Many conferees thought that industry should be sold on training in general, and MA-5 in particular, on a self-interest rather than a social-service basis. Many self-interest factors were introduced to the conference and discussed in the workshops: Developing a local work-force to industry specifications that had reason to be loyal; an ability to fill shortage skills from in-plant upgrading and to introduce more upward mobility into the work-force; to prepare for the 1970's as a time when a growing and increasingly technical society will create a chronic tight-label market demanding higher capabilities; the considerable gains Union Carbide reported from journeymen, supervisors, and upper levels as a result of their having to teach what they know and thereby improve themselves; and other benefits. Reference is made again to the foregoing input papers.

This discussion was meant to bind the motivations of businessmen to share in the responsibility to solve general manpower problems, with a recognition of the existence of an economy whose basic nature requires business to show a profit on production.

13. What was the impression of the TAT Satellite Project?

In this project, 24 disadvantaged Negro youths from the Chicago ghetto were brought to TAT for training. These persons were recruited by the National Accelerator Laboratory near Chicago, were put on the NAL payroll, and will return to jobs at NAL following training at TAT for four to six months.

The merits of removing an employee from his regular environment for training were said to center around reducing the trainee's contact with negative and disruptive influences. While this may be a good objective, discussants asserted that there can be many pitfalls involved in so removing a person from his natural or accustomed surroundings. Great care should be exercised in assisting such a person to adjust to his new environment without "coddling" or "spoiling" him. Participants agreed that at this time we cannot evaluate fully this technique of rehabilitating a ghetto dweller. We must wait and see how such a project works, finding out by experience the pros and cons.

14. What about taking on trainees who have police records?

TAT did so and placed them. It has taken more effort but they got good results.

SPECIFIC DEVELOPMENT OF AN MA-5 PROGRAM

1. What are the criteria for eligibility in a basic JOBS program?

Criteria for individuals eligible to participate as employee: Poor persons who do not have suitable employment and who are either (1) school dropouts, (2) under 22 years of age, (3) 45 years of age or over, handicapped, or (5) subject to special obstacles to employment.

2. Is MA-5 just "another Government Program?"

This issue was raised seriously by some conferees who alleged resistance in some sectors of the business community to "another government program." Discussion suggested that one not duck the fact that it is fully a federally financed program–$420 million dollars is allocated to it for fiscal year 1970. This in no sense, however, diminishes the reality that it is a program of the National Alliance of Businessmen and that the private sector has the entire responsibility of making it work.

The majority of the business-private sector community has been growing in its awareness of the problems of hiring and training disadvantaged persons,

in recognizing its own unique capabilities in helping meet the problem, and in accepting the challenge to play its part. Businessmen do have to balance the books and it is proper that they should be repaid for extraordinary costs incurred in training in a newer and deeper way than heretofore.

MA-5 represents a modest federal support to the initiative and enterprise of the private sector in meeting its own manpower needs and in serving national goals.

3. Where does the initiative lie in developing an MA-5 Contract?

The initiative lies with a private business that is willing to hire and train disadvantaged people. The National Alliance of Businessmen is developing the necessary procedures for a contract proposal, but the contract remains one between the participating organization and the U. S. Department of Labor.

A business wanting to participate may not have the in-house capability or personnel it can detail to provide the management function of conducting the program and relating it to all of the community resources that may be necessary. In such instances, the company may subcontract to a third party for these services and include these costs in determining the contract cost.

4. What is the role of the Employment Service in developing MA-5?

This role is considerable. Employment Service personnel are associated with the offices of every NAB Metro office. Such persons may be of considerable technical assistance in helping develop the program, acting as liaison both with local agencies and resources and with the office of the Regional Manpower Administrator which approves the contract with the Department of Labor. The State Employment Service is a principal referral source of employees to be hired under the program. Its outreach efforts will provide the vehicle of getting the JOBS story to the target population.

5. What are the flexibilities in an MA-5 contract?

They are very great, limited primarily by imagination and ingenuity. The basic constrictions are simple: the employee must be hired first; he must be disadvantaged according to the criteria as defined by DOL guidelines; and he must be prepared for a specific job at a particular level in nine months. Within these requirements, a wide variety of devices and institutional arrangements may be used, if they promise to produce the kind of a productive worker an industry wants at the end. It was stressed repeatedly at this conference that business or industrial concerns should think not in terms of what they could not do, but in terms of what they could or would like to try, and then seek technical help in tailoring a program to their own needs. A given program does not have to look exactly like any other.

6. Does the fact that TAT did not have a hiring commitment affect it as a MA-5 model?

Not at all. In Phase I of TAT, there was practically 100 percent placement and all trainees had two to three bona fide job offers. The combined allowance and training costs would have covered the extraordinary costs of training plus being on payroll instead of MDTA allowance. In Phase II, currently in progress, Union Carbide absorbs the training costs. It is also planning to hire the majority of the trainees. Adjustments on training costs in addition to the allowances, which MDTA still pays, would have accommodated a salaried status.

While TAT has not found it difficult to place its graduates, it has used a state-wide and surrounding state area. In large metropolitan areas, where it is desirable to train a local force for local needs, it is simpler to tie the job-development and placement function into a direct hire in the first place. There are additional motivations to performance in training for many of the disadvantaged when the job is a present reality.

7. Where can training take place?

The JOBS program is an on-the-job training with the skill training to be conducted on machines and tools in a productive situation in the plant. Under the provisions of the MA-5 contract, it is possible to provide prevocational training and job-related basic education required preliminary to the production situation. This job support is available to help overcome the anticipated employment deficiencies of the target population, the hard-core disadvantaged person. JOBS, however, is an employment program and is not to be construed particularly as a training program. The nonproductive training must be in direct support of a specific job. The OJT should take place in-plant wherever possible, the job-related supportive services should be carried on in as much of a job-like setting as possible. Where it is necessary to go off-site, any suitable location for the job may be utilized. The balance to be struck is between the convenience of a training situation and the place where training takes place.

8. What parts of the TAT training program are applicable to MA-5?

It is recognized and emphasized at this conference that the TAT model which was toured and presented was a kind of "jewel-box" situation that would rarely, if at all, find the conditions existing elsewhere for exact replication. On the other hand, all of the generic elements of a good training program can be brought to bear: Inventory and use of plant facilities and equipment not fully used otherwise; use of plant personnel at various levels in training; individual attention and pacing of trainees; close coordination with unions, supervisors, school system, employment service, and others; quality training to plant specifications; and more. Reference is made to the foregoing papers to which discussion was turned from time to time in the workshops and which the resource persons from TAT in each workshop amplified. TAT was not presented as a norm, but as a stimulus.

9. What are the cooperating organizations that exist within the community with which an MA-5 proposer can make contact?

Some conferees came from cities where a Job Bank has been set up. They were enthusiastic not only about what it does in helping placements, but also in its providing some coordination of different groups. There are not many such cities yet, but where there are, the participating agencies are quite likely to be prime ones with whom to establish working relations and from whom to solicit help. The local NAB office should have a basic communications network set up with relevant organizations.

Another conference suggestion was to get the industry with a training proposal or a contract into the local area CAMPS committee.

10. How well adapted is MA-5 to the consortium approach by industry?

It is well adapted. The consortium approach may be the only viable way for smaller industires where no one company can provide the number of job commitments. A consortium would provide a diversified group to manage a broad program.

The consortium approach probably places a higher premium on the management group to organize and carry out the training program at a consistently high level, using the resources of all to the maximum.

11. What kinds of technical assistance can TAT personnel give in problems of proposal development or in solution of implementation problems?

In general, requests to TAT will be given attention in the order received. The response made by TAT will be processed in accord with a variety of factors germane to the requestor's needs and the total demand on the TAT technical assistance staff and other available resources. Brief discussions and distribution of publications may be sufficient to satisfy many requests, particularly in the early development or exploratory stages of a project. When appropriate, a visit to Oak Ridge can be scheduled to observe training activities and consult with project staff. Periodic conferences or workshops may also be scheduled to supply information to groups with similar interests. Other requests may call for a TAT staff member to go to proposed sites. In this case, visits would be grouped to permit efficient use of travel time. Priority will be given to the interests of the U. S. Department of Labor and the U. S. Atomic Energy Commission and its contractors. Further, since Oak Ridge Associated Universities has 41 member universities located in 15 Southern states, this region will be of particular interest. Manpower development services by TAT will not, however, necessarily be restricted to the South.

Requests for manpower development services should be directed to: Training and Technology, Oak Ridge Associated Universities, P. O. Box 117, Oak Ridge, Tennessee 37830.

USING EDUCATIONAL AND OTHER COMMUNITY RESOURCES

1. What can the educational system do about its drop-outs or about getting the disadvantaged to attend free evening classes, without stipends?

An ORAU official suggested one thing which was learned from a tour of TAT facilities by junior-high schoolers who were considered potential drop-outs. The students and teachers were surprised to learn that such jobs existed for "non-college people." Teachers went out more motivated to help the non-college-bound student. It was suggested that industry do more in public relations-education programs for junior high and high school students, especially directed at the potential dropouts.

The disadvantaged have not widely accepted

evening-school vocational education opportunities. It was suggested that the school programs be reviewed, to see exactly what was being offered for what kinds of jobs, and whether or not real job opportunities were to be offered at the end. Just offering classes is not enough—the disadvantaged must see a job future.

It was also noted that, while vocational education is most important and, indeed, should be expanded, it remains—in the school establishment—primarily a program for in-school people. Other manpower programs are primarily remedial, for those whom the school system has not served and cannot now easily serve again.

2. What resources in the community must be engaged to operate an effective program?

Industry should begin with a critical inventory of its own resources in space, material, and personnel. It must involve labor unions from initial planning through program operation. President Meany of the AFL-CIO has given the commitment of support from labor, and help from the national AFL-CIO offices may be obtained to help negotiate union problems. The Employment Service is a key institution in recruiting and supplying enrollees. As has been noted, local educational facilities and funding support capabilities should be surveyed carefully. In some cases, nearby colleges and universities may have personnel who can fill a role such as Oak Ridge Associated Universities and the University of Tennessee did for TAT, supplying graduate student counselors and vocational-education student teachers. Various other community agencies may be able to contribute personnel and other resources in supportive services.

In South Bend, Indiana, the Chamber of Commerce Opportunity League developed jobs for the disadvantaged. OEO Neighborhood Centers furnished supportive services. One local plan which has developed sensitivity training for supervisors allows other businesses to take part in it. Without outside monies, 283 people have been placed with an 80 percent retention rate.

3. What resources may the schools supply?

This will vary with each local situation. Adult Basic Education (under Adult Education Act of 1966, Title III of the Elementary and Secondary Education Amendments of 1966, PL 89-750) is able to pay for the cost of 160 hours of remedial education for disadvantaged persons. TAT was able to work an arrangement with local education authorities in Oak Ridge to have the basic education instructors come in to the plant to conduct classes. Schools have this capability if it can be negotiated. The director of vocational education from one metropolitan area attending this conference offered a range of services to industry representatives from that city also attending. One cannot tell concretely what is available or may be made available until an inventory of resources is made and negotiations are established in each local community. Discussion reiterated that such action is necessary to plan and execute a good training program and make the best possible use of local dollars.

Through a high school co-op program in Charleston, West Virginia, disadvantaged students who lacked academic motivation combined a half-day of work with a half-day of schooling. Their attendance at work counted toward school credit. During the program the students' grade average increased, and some decided to go to college. Industry officials reported that the relationships developed between supervisors and the students built supervisory capabilities far better than had any previous training program.

One city representative present had found that the public schools were the only place where the necessary training space was available. Discussion of the problems of schools' antiquated equipment and curricula led to the comment that industry should be more intimately engaged in advising schools of the need for specific vocational skills. It was also suggested that some trading of personnel between industry and school for limited periods would help.

A PROCEDURE CHECK-LIST

1. Is there any program development and operations check-list available for guidance to industries contemplating getting into training of the disadvantaged?

TAT has a list which summarizes in chronological order many of the steps necessary in developing a training program. Some of these were peculiar to TAT, but the guide is useful.

● Program Development and Operations Check List

Manpower Inventory of Project Region

–Determination of job needs
–Identification of people available for training

Manpower Agency Involvement

–Local Agencies

National Alliance of Businessmen and JOBS program
Employment Service
Colleges and Universities
Vocational Education
Secondary Schools
Adult Basic Education
Community Action Agencies

–State Agencies

Employment Service
Vocational Education
Office of Economic Opportunity
Office of Federal Program Coordinator

–Regional Agencies

Office of Education
Manpower Administration

–Federal Agencies

Department of Labor
Department of Health, Education and Welfare–Office of Education
U. S. Atomic Energy Commission
Office of Economic Opportunity

–Other Agencies

AFL-CIO–local, state and international
Foundations
Technical Action Panels (U. S. Department of Agriculture)
Local Government

Proposal Development and Writing

–Field contact staff
–Legal staff
–Data collection and writing
–Completion of Manpower Forms (MTI's and 2's, OE-4000's)
–JOBS contract proposal form

Proposal Approvals and Funding

–Check levels of approval
–Use of interagency agreement

Recruiting and Training of Project Staff

–Shortage of professional manpower specialists
–Plans for staff training

Recruitment of Trainees (Employees for JOBS Program)*

–Application blanks
–Recruitment literature

Brochure describing program
News releases
Radio spots
Mail box fliers

–Staffing requirements

Regular
Part time–union–minority
Volunteers–trainee graduates and others

–Manpower referral agencies

The Employment Service
Community Action Agencies
Neighborhood Youth Corps–Job Corps

Selection of Trainees (Employees for JOBS)**

–Use of tests
–Interviews
–Selection committee membership
–Recruitment/selection ratio
–Referral for training by Employment Service

Appointment of Trainees (Employees for JOBS)

–Notification of appointment
–Processing for training allowances
–Acceptance action by trainees
–Counseling on housing, transportation and attendance

Selection of Alternates

–Across the board percentage
–Notification and acceptance

Orientation and Placement in Training

–Testing procedure–diagnostic
–Trainee choice of occupation
–Remedial courses
–Physical examinations
–Guidance and counseling input

**Through the Concentrated Employment Program (CEP) or State Employment Service (SES).*

***Must all meet criteria of "disadvantaged."*

Training Related Materials

- –Trainee handbook
- –Course catalog
- –Course schedule
- –Textbooks
- –Attendance records
- –Supplies and materials
  - Excess and salvage
  - Donations
  - Purchased items
- –Library materials
- –Non-capital equipment

Supportive Services

- –Guidance and counseling program
- –Other supportive services
  - Attendance services
  - Tutoring
  - Financial assistance
  - Insurance
  - Housing
  - Medical and dental
  - Food stamps
  - Public health services
  - Welfare services
  - Legal services
- –Referral services

Progress in Training

- –Attendance and allowance payment policy, or salary payment under JOBS
- –Evaluation procedure
  - Grading philosophy
  - Grade books and evaluation forms
- –Quarter intervals
- –Transfers between training areas
- –Motivation
- –Discipline
- –Training activities
  - Related instruction
  - Shop and lab
  - Directed study and homework
  - Adult Basic Education and preparation for GED diploma

Required in MA-5

- –Initial orientation
- –Job-related basic education
- –Job coaching
- –Supervisory and Human Relations Training
- –Transportation
- –Child-care assistance

Curriculum and Instruction

- –Trade-related mathematics, communication, and science
- –Technical instruction in occupational areas
- –Remedial instruction
- –Instructional materials
- –Ratio of classroom to shop and lab instruction
- –Syllabus, course outlines and lesson plans
- –Job readiness training seminars
  - Preparation of applications
  - Interview techniques
  - Role of organized labor
  - Career concept of work

Job Placement Services–Employment Established Under JOBS

- –Visits by company recruiters
- –Mail surveys of major employers
- –Development of alternative job sources
- –Maintenance of job placement records

Follow-up Studies

- –Questionnaire mailings
  - Trainee graduate questionnaire
  - Trainee employer's questionnaire
  - Questionnaire for trainee dropouts
- –Follow-up via personal interviews

Experimentation and Research

- –Involvement of university faculty and graduate students
- –Use of special consultants
- –Seminars, term papers and theses

Documentation and Dissemination

- –Provision for data collection
- –Periodic, special and final reports
- –News releases, feature articles and special publications
- –Conferences and workshops

QUESTIONS AND ANSWERS ON MA-5 PROGRAM DEVELOPED FROM PLANNING DISCUSSIONS

SECTION I–GENERAL INFORMATION

1. In a JOBS city, must a company go through the NAB in order to be eligible for an MA-5 contract?

No. The contract is between the company and the Federal government. In most instances, however, the NAB will request that the company officially submit a pledge and join the JOBS program under its auspices if a contract is let.

2. Are aliens eligible for training under MA-5?

Yes. Provided they are permanent residents of the United States.

3. Can an employer submit a proposal under Option A and B simultaneously?

Yes. However, the approval of an Option B contract is dependent upon either the approval of the Option A proposal or the prior award of either an MA-3 or MA-4 contract.

4. Who determines the information released to the public on the award of a contract?

Under the Public Information Act (29 Code of Federal Regulations 70) and the Department of Labor's regulations, government contracts are public information. The information to be released is the name of the contractor, the amount of the contract, the number and types of jobs under the program. Other information which might contain trade secrets or information that might be confidential or prejudice the business of the contractor would not be released.

5. May a contractor have both an MDTA OJT contract and a JOBS contract for the same occupation?

Yes. The difference should be in the type of individual being trained under the program.

6. May a public school sub-contract to a contractor to supply basic supportive services?

Yes, within its recognized competence.

7. Are the Opportunities Industrialization Centers (OIC) eligible to act as sub-contractors under the contract?

Yes.

8. Regarding contract monitoring by the government, what is meant under the terms of the contract by "...the right to examine any directly pertinent books, documents, papers and records...related to this contract?" (See Terms #14.)

Pertinent books, etc., are those records which directly relate to the contract and would include such things as attendance records of the employees hired pursuant to the contract.

9. May a company that has an already on-going training program stop this activity and expect to continue it under an MA-5 contract?

No. The maintenance of effort statement on the face sheet of the contract would preclude a company from stopping its normal activities in an effort to pick up these costs through an MA-5.

10. May production equipment be purchased with funds received under an MA-5 contract?

No. Training equipment only may be purchased. The contract is not intended to put a contracting company in a more favorable position with its competitors.

11. How long will MA-5 proposals be accepted?

Proposals are being accepted now and will continue to be accepted with no announced cut-off date. Proposers are encouraged to submit their proposals as soon as possible to insure that ample funds are available for funding.

12. If the training period for any one employee is nine months, why is the contract period for 18 months?

The contract period is for 18 months to allow for phase-in up to nine months and cycling the intake of employees. An employee may be hired through the ninth month and fill the complete contract slot.

13. May an employee be paid at a differing wage scale during his pre-vocational training time, as compared with his vocational on-the-job training?

Yes.

14. Can an employee who has dropped out of the program be replaced?

Yes. With the understanding that an agreed upon

amount of money is available for each job slot. If a dropout is replaced, he is expected to receive the same training that was planned for his predecessor. Any funds spent on the original employee reduces the amount available for replacement.

15. Will contractors receive advances of money to cover training costs and to gear up for training?

No advanced payments will be made. Payment will be made on the basis of the fixed unit cost schedule.

16. How soon after the contract is signed must hiring begin?

As soon as possible. A hiring schedule must be included in the proposal. Preference will be given to contractors who begin hiring immediately.

17. Where can help be received in writing a proposal?

A proposer cannot get help with the actual writing of a proposal but can get technical assistance, suggestions, and answers to questions from members of the local NAB office or from the Regional Manpower Administrator's staff.

18. Does the Government hold the sub-contractor primarily responsible for services they are to deliver?

No. The prime contractor (employer) is responsible for performance of the sub-contractor.

19. Are wages of supervisors an allowable cost under MA-5 when they are attending the Human Relations training presented by NAB?

Yes.

SECTION II–OPTION A

1. What legal form must a consortium entity take?

A consortium may take any legal form, such as a specially formed corporation, a partnership, a joint venture or any other mode which would bind the participating companies.

2. How does the consortium entity act as an agent for the participating companies?

Under the provisions of the limited power of attorney, or consortium agreement.

3. May the consortium entity add new companies or reduce companies at its own discretion?

No. It may not. However, it may obtain a modification of its contract either to add or delete participating companies.

4. May a non-profit corporation be organized to conduct a consortium?

Yes.

5. May an existing corporation conduct a consortium?

Yes. Provided it is empowered to do so under its by-laws.

6. Can one consortium entity form and conduct more than one consortium?

Yes.

7. What determination must be made by a contractor to fulfill the priority to be given to skill centers under the Request for Proposal?

A contractor has the responsibility to see if a skill center can provide the necessary components under the contract. If in his estimation it cannot, the reasons must be listed in the proposal. If the skill center is not suitable, the contractor will receive approval from the RMA to utilize other resources.

8. May a contractor change a skill level or wage rate being offered to an employee at his own discretion?

Any change in skill level or wage rate must have the approval of the Government's contracting officer.

9. Must the contractor rely upon the Concentrated Employment Program to do all the recruiting for him within the Standard Metropolitan Statistical Area?

The CEP is restricted to recruiting in its own target area. The referral source for other parts of the SMSA would be the State Employment Service.

10. What is the extent of the priority given to the CEP for recruiting?

Under the provisions of USTES PL 2473, the CEP will be given 48 hours to fill any job order. After this time the job order will be disseminated to other referral agencies within the SMSA.

11. How are the costs of the wages paid to an employee while he is in a training situation and not producing any materials for the employer handled under the terms of the contract?

Non-production or extra-ordinary costs for training time is a factor to be taken into account in determining the fixed unit cost.

12. Do minority enterpreneurs receive special consideration in this program?

While it is earnestly hoped that minority entrepreneurs will actively participate in the JOBS program, no special considerations are available to them.

13. Can skill centers or other training programs sponsored by the government be a referral source of employees under this program?

Graduates of other training programs might be eligible to participate in the JOBS program if they have not received the necessary training required to make them job ready or where specific skills are required beyond the training in the skill centers.

14. Are private universities or colleges eligible to participate in the MA-5 program?

Yes, all private, non-profit institutions which are otherwise eligible may participate.

15. May local power and light companies regulated by the State as to their rates and charges be eligible to participate in the program?

Yes. As long as the company is not municipally owned, it may participate in the program.

16. Does child care assistance include baby sitting costs?

The child care assistance available under the MA-5 is meant to be a temporary measure until the employees have been able to work out permanent arrangements. It may include baby sitting costs provided it is understood that these extraordinary costs will be borne by the employee at the time of the expiration of the contract.

17. Must job coaching and counseling be done under sub-contract or may qualified plant personnel handle this aspect?

It is hoped that job coaching and counseling would be carried on by qualified plant personnel. It may, however, be sub-contracted.

18. What form is needed to indicate union concurrence if a training program will affect an occupation covered by a collective bargaining agreement?

A letter from the union will suffice.

19. If I encounter difficulties in implementing my program, can I get help?

You may request help from the NAB team in your city or from members of the contracting officer's staff.

SECTION III–OPTION B

1. Who determines whether a worker is "working disadvantaged," having a low-skill, low-wage job for at least 12 months, and has in fact "demonstrated an inability to advance to position of higher wages?"

The company determines this, subject to the evaluation by the Labor Department at the time of the contract.

2. How is a skill shortage area in a plant established?

Skill shortage areas must be verified by the State Employment Service, and a proposal must include a letter from them verifying the shortage.

3. How elaborate a training program is required under Option B, the upgrading program?

The program must be sufficient to raise any disadvantaged employee at least two skill levels as measured by the DOT code. In practical terms, it should raise the man's ability to justify an increase of at least 10 percent of his wages. It should be noted that the program is expected to fall roughly within the financial guidelines set forth in the Request for Proposal of between $200 and $800 for an individual's upgraded training.

4. May a company that has already been awarded an MA-3 or MA-4 contract submit an Option B proposal for another of its plants, not at the one where the MA-3 or MA-4 is operative?

Yes. Under the terms of the Request for Proposal, companies that have been awarded an MA-3 or MA-4 contract may submit proposals under Option B.

5. May an Option B be used to upgrade persons currently in apprenticeship programs?

No. The current level of training must not be lessened as a result of this contract.

SECTION IV–REPORTING AND INVOICING

1. How long does it take to receive payment?

Invoices are to be submitted monthly. Upon receipt, an authorized representative of the contracting officer will review and certify it for payment. It is then sent to the payment branch in Washington with one certified copy returned immediately. This process takes from one to two weeks from the time the invoice is mailed until payment.

2. Must an invoice be submitted even though employees have not been hired under the contract?

An Invoice/Report must be submitted between the first and tenth day of each calendar month after the effective date of the contract regardless of hires. If you have hired no one, you must so state with zeros. You will receive no money for that invoice period, but we must have the report to evaluate activity in the region.

Appendix A – Program

TUESDAY, JUNE 3
HOLIDAY INN

5–10 p.m. Registration and Reception

WEDNESDAY, JUNE 4
HOLIDAY INN

8–9 a.m.
Registration

9–9:30 a.m.
WORKSHOP ORIENTATION

CLARENCE E. LARSON, President
Nuclear Division
Union Carbide Corporation

9:30–12:30 p.m.
Tour of TAT Facilities

12:30 p.m. Luncheon

Presiding

HERMAN M. ROTH, Director
Laboratory and University Division
Oak Ridge Operations Office
U. S. Atomic Energy Commission

Speaker:

CHARLES ODELL, Director
Office of Systems Support
U. S. Training and Employment Service
Manpower Administration
U. S. Department of Labor

2–2:45 p.m.
First Presentation

Program Conception From "The Gleam in the Eye"

WENDELL H. RUSSELL, Project Director
Training and Technology Project

2:45–3:15 p.m.
Break

3:15–5:15 p.m.
Workshop No. 1

Development of Training Programs

Dinner – On your own.

8–9 p.m.

Federal Resources – The MA-5 Program and Others

SHELDON BLOOM
National Alliance of Businessmen

ROBERT FRIEL, Solicitor's Office
U. S. Department of Labor

EDWIN L. RUMPF, Chief
Development Branch
Division of Vocational and Technical Education
U. S. Office of Education

(OVER)

9 p.m.
Informal Question and Answer Session

THURSDAY, JUNE 5
HOLIDAY INN

8:30–9:15 a.m.
Second Presentation

Redirection of Company Resources

J. LEO WATERS, Manager
TAT Y-12 Program
Nuclear Division
Union Carbide Corporation

9:15–9:45 a.m.
Break

9:45–11:45 a.m.
Workshop No. 2

Utilization of Industrial Resources

12:15 p.m.
Luncheon – Third Presentation

Production and Quality Control of Training

WILLIAM R. RAMSAY, Consultant
to the TAT Project

2–4 p.m.
Workshop No. 3

Planning and Organization for Specific Training Programs

4 p.m.
Adjourn

(OVER) ➡

FRIDAY, JUNE 6
HOLIDAY INN

NOTE: For those who are interested and wish to obtain additional information about the TAT Project, there will be an informal session Friday, June 6, from 9 to 11 a.m. The TAT staff will be available for consultation and planning during this session.

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